

REMARKS

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-16 are now present in the application. Claims 1, 6 and 11 have been amended. Claims 12-16 have added. Claim 1, 6 and 11 are independent. Reconsideration of this application, as amended, is respectfully requested.

Information Disclosure Citation

The Examiner stated that the Information Disclosure Statement filed May 31, 2005 fails to comply with 37 C.F.R. §1.98(a)(2). An information disclosure statement is resubmitted concurrently herewith. The Examiner is courteously requested to provide Applicants with an initialed copy of the PTO-1449 form filed therewith with the next official communication.

Drawings

Applicants thank the Examiner for accepting the formal drawings of the instant application.

Claim Rejections Under 35 U.S.C. § 101

Claim 11 provisionally stands rejected under 35 U.S.C. § 101 as claiming the same invention as that of claim 8 of co-pending Application No. 10/536,958. This rejection is respectfully traversed.

As the Examiner will note, claim 8 of co-pending Application No. 10/536,958 has been cancelled. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 101 are respectfully requested.

Claim Rejections Under 35 U.S.C. § 102 & 103

Claims 1-3, 5-8 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kull, U.S. Patent No. 5,931,219. Claims 4 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kull in view of Simpelaar, U.S. Patent No. 2,959,400. Claim 11 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Tran, U.S. Patent No. 5,228,515. These rejections are respectfully traversed.

Complete discussion of the Examiner's rejections is set forth in the Office Action, and are not being repeated here.

In light of the foregoing amendments, Applicants respectfully submit that these rejections have been obviated and/or rendered moot. Without conceding to the propriety of the Examiner's rejections, but merely to timely advance the prosecution of the application, as the Examiner will note, independent claims 1, 6 and 11 have been amended.

Claims 1 and 6

Independent claim 1 recites a combination of elements including "a plurality of embossing protrusions which are formed on the outdoor air path between two adjacent heat exchange plates, for generating turbulence in the outdoor air which flows in the outdoor air path, the embossing protrusions being located on one of the two adjacent heat exchange plates without being in contact with the other one of the two adjacent heat exchange plates." Independent claim Birch, Stewart, Kolasch & Birch, LLP

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6 recites a combination of elements including “a plurality of embossing protrusions which are positioned in the indoor air path between two adjacent heat exchange plates, for generating turbulence in the indoor air flowing in the indoor air path, the embossing protrusions being located on one of the two adjacent heat exchange plates without being in contact with the other one of the two adjacent heat exchange plates.” Support for the above combinations of elements can be found in FIGs. 6 and 7 as originally filed. Applicants respectfully submit that the combinations of elements set forth in claims 1 and 6 are not disclosed or suggested by the references relied on by the Examiner.

Kull in FIG. 4 discloses a plate heat exchanger including a plurality of turbulence inserts 44 (referred to by the Examiner as the corrugation plate) and a plurality of embossed elevations 43 (referred to by the Examiner as the embossing protrusions.) As shown in FIG. 4, the embossed elevations 43 are in contact with both upper and lower plates 40, 41. Therefore, Kull fails to teach “the embossing protrusions being located on one of the two adjacent heat exchange plates without being in contact with the other one of the two adjacent heat exchange plates” as recited in amended claims 1 and 6.

With regard to the Examiner’s reliance on Simpelaar, this reference has only been relied on for its teachings related to some dependent claims. This reference also fails to disclose the above combinations of elements as set forth in amended independent claims 1 and 6. Accordingly, this reference fail to cure the deficiencies of Kull.

Claim 11

Independent claim 11 recites a combination of elements including “the outdoor embossing protrusions being located on one of the two adjacent heat exchange plates without

being in contact with the other one of the two adjacent heat exchange plates, the one of the two adjacent heat exchange plates outside of an area occupied by the outdoor embossing protrusions being substantially flat.” Support for the above combination of elements can be found in FIGs. 6 and 7 as originally filed. Applicants respectfully submit that the combination of elements set forth in claim 11 is not disclosed or suggested by the reference relied on by the Examiner.

Tran discloses a plurality of shell members 24A and 24B, each of which includes a plurality of embossments 32A, 32B and 34 (see FIGs. 3-5.) As shown in FIGs. 4 of Tran, each embossment at one of two adjacent shell members forming the air path will be in contact with the other one of the two adjacent shell members (i.e., the corresponding embossment at the other one of the two adjacent members). Therefore, Tran fails to teach “the outdoor embossing protrusions being located on one of the two adjacent heat exchange plates without being in contact with the other one of the two adjacent heat exchange plates” as recited in amended claim 11.

In addition, since each shell member has a plurality of protruding embossments and a plurality of recessed embossments, there must be some recessed embossments located in the area not occupied by the protruding embossments. Therefore, Tran also fails to teach “the one of the two adjacent heat exchange plates outside of an area occupied by the outdoor embossing protrusions being substantially flat” as recited in amended claim 11.

Accordingly, none of the utilized references individually or in combination teach or suggest the limitations of amended independent claims 1, 6 and 11. Therefore, Applicants respectfully submit that amended independent claims 1, 6 and 11 clearly define over the teachings of the utilized references.

In addition, claims 2-5 and 7-10 depend, either directly or indirectly, from independent claims 1 and 6, and are therefore allowable based on their respective dependence from independent claims 1 and 6, which are believed to be allowable.

In view of the above remarks, Applicants respectfully submit that claims 1-11 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Additional Claims

Additional claims 12-16 have been added for the Examiner's consideration. Support for the above combination of elements can be found in FIGs. 6 and 7 as originally filed.

Applicants respectfully submit that claims 12-16 are allowable due to their respective dependence on independent claims 1, 6 and 11, as well as due to the additional recitations included in these claims.

Favorable consideration and allowance of additional claims 12-16 are respectfully requested.

Additional Cited References

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but rather to merely show the state of the art, no further comments are necessary with respect thereto.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently pending rejections and that they be withdrawn.

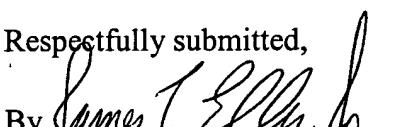
It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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